THE CATHOLIC UNIVERSITY OF AMERICA
Washington, DC 20064

SEMINAR IN FUNCTIONAL ANALYSIS
AND RELATED AREAS

Wednesday, April 5, 2023

5:10 p.m. - 6:50 p.m. (including a coffee break)

SPEAKER: Justin Barhite
                         University of Kentucky

TITLE: Proof by Picture: Using String Diagrams to Understand Traces

ABSTRACT: A well-drawn picture can make a complicated proof much more manageable. One type of picture that accomplishes this is the string diagram, which represents objects and maps in settings where you can put two objects together to get a third, like the cartesian product of sets or the tensor product of vector spaces. I use string diagrams to study far-reaching generalizations of the trace of a square matrix; abstracting the notion of trace this way allows us to observe surprising connections between different areas of math. I will demonstrate how to draw and manipulate string diagrams, and then illustrate how they are helpful in my research.

The presentations will be given via Zoom. The corresponding link will be sent to everyone in advance.

ORGANIZERS: V. Bogdan (The Catholic University of America), P. Kainen (Georgetown University), R. Kalpathy (The Catholic University of America), and A. Levin (The Catholic University of America).

Tel: 202-319-5221, 202-319-5222.   Fax: 202-319-5231. E-mail:levin@cua.edu
Web page:
https://mathematics.catholic.edu/faculty-and-research/mathematics-seminar/index.html